

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P584582

Luminaire Tested: **HC840D010-HM82555927-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584582
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC840D010-HM82555927-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3552.0 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

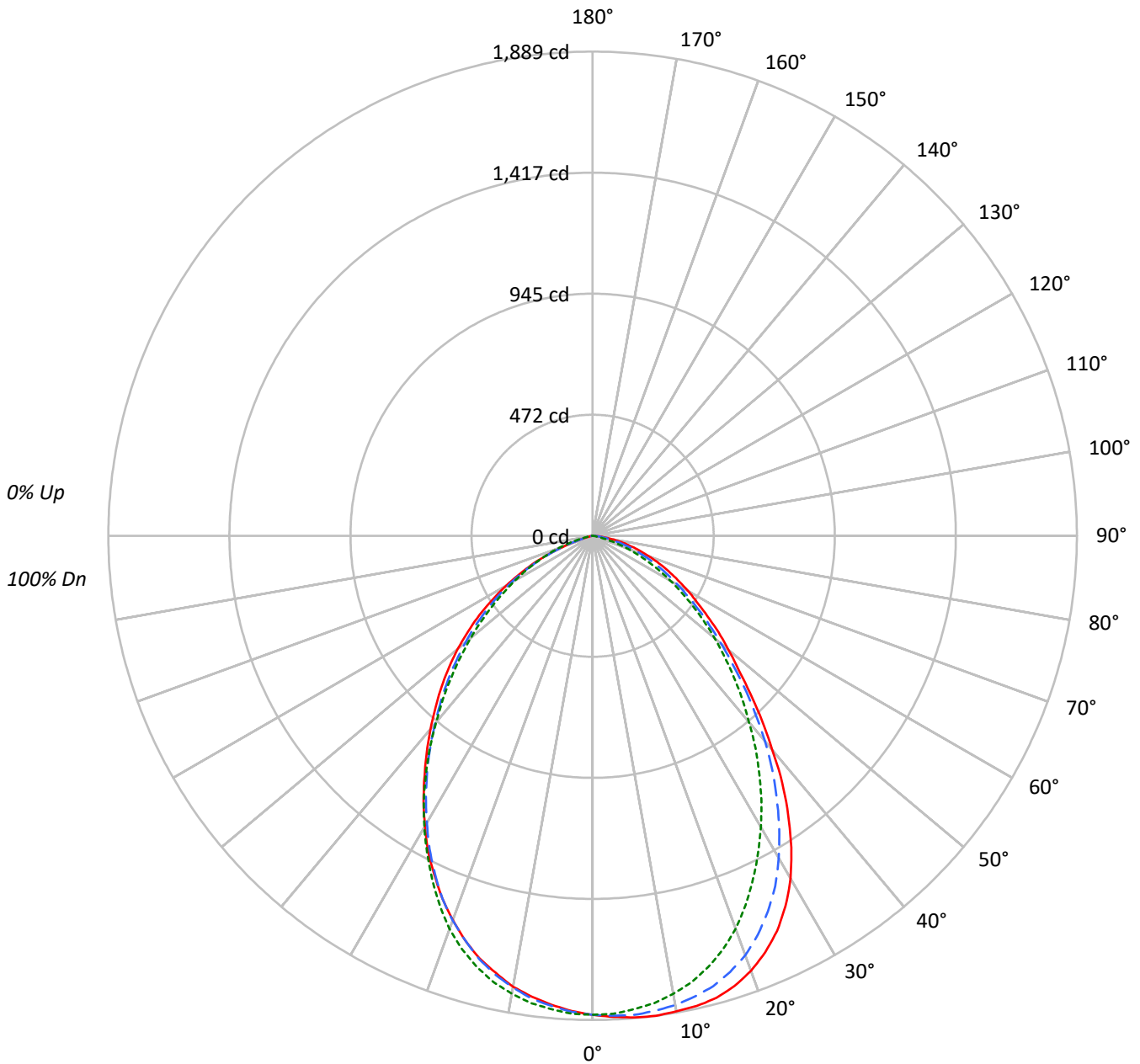
Input Watts (W): 41
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	57630	57630	57630
5°	58392	57386	56847
10°	58989	56800	55939
15°	59583	55602	54485
20°	59281	53548	52324
25°	57899	50342	49665
30°	54995	46734	46556
35°	50063	42647	43020
40°	43893	38169	39578
45°	37866	33950	36344
50°	33159	29805	32919
55°	29375	25623	28977
60°	26470	21548	24003
65°	23852	17293	18387
70°	20917	12595	10125
75°	17836	6541	2681
80°	13745	1776	444
85°	8845	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.3	5.0
10°-20°	495.7	14.0
20°-30°	703.6	19.8
30°-40°	740.6	20.9
40°-50°	630.0	17.7
50°-60°	455.3	12.8
60°-70°	259.0	7.3
70°-80°	81.6	2.3
80°-90°	9.9	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1375.6	38.7
0°-40°	2116.2	59.6
0°-60°	3201.5	90.1
0°-90°	3552.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3552.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1869	1869	1869	1869	1869	
5°	1886	1876	1854	1842	1836	180
15°	1866	1819	1742	1709	1707	526
25°	1702	1617	1480	1455	1460	779
35°	1330	1253	1133	1125	1143	828
45°	868	836	778	798	833	675
55°	546	507	477	504	539	493
65°	327	282	237	234	252	324
75°	150	115	55	25	22	161
85°	25	15	0	0	0	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9
2.5°	1878.9	1881.4	1876.4	1876.4	1881.4	1876.4	1878.9	1878.9	1876.4	1876.4	1873.9
5°	1886.4	1883.9	1883.9	1883.9	1886.4	1881.4	1878.9	1881.4	1876.4	1876.4	1876.4
7.5°	1888.9	1888.9	1886.4	1883.9	1883.9	1883.9	1881.4	1878.9	1876.4	1871.4	1868.9
10°	1883.9	1883.9	1886.4	1881.4	1881.4	1876.4	1876.4	1871.4	1871.4	1866.4	1858.9
12.5°	1878.9	1876.4	1876.4	1871.4	1871.4	1866.4	1866.4	1858.9	1856.4	1849.0	1841.5
15°	1866.4	1863.9	1858.9	1856.4	1853.9	1851.4	1846.5	1844.0	1836.5	1826.5	1819.0
17.5°	1841.5	1839.0	1836.5	1831.5	1826.5	1824.0	1821.5	1814.0	1804.0	1796.5	1784.0
20°	1806.5	1804.0	1804.0	1796.5	1794.0	1786.5	1784.0	1774.1	1766.7	1751.7	1741.7
22.5°	1759.2	1761.7	1756.7	1751.7	1746.7	1739.2	1734.2	1724.2	1711.7	1696.7	1684.3
25°	1701.7	1704.2	1699.2	1694.2	1686.8	1681.8	1676.8	1661.8	1649.3	1631.8	1616.9
27.5°	1629.3	1629.3	1629.3	1624.4	1612.0	1609.5	1604.5	1589.5	1572.0	1557.0	1542.0
30°	1544.5	1542.0	1542.0	1534.6	1529.6	1519.6	1512.1	1499.6	1487.1	1469.6	1452.3
32.5°	1442.3	1444.8	1437.3	1432.3	1424.8	1424.8	1414.8	1404.8	1389.8	1372.4	1354.9
35°	1329.9	1332.4	1327.4	1324.9	1312.5	1310.0	1307.5	1295.1	1285.1	1272.6	1252.6
37.5°	1215.2	1212.7	1210.2	1210.2	1202.7	1197.7	1192.7	1185.2	1170.2	1160.2	1150.3
40°	1090.4	1090.4	1090.4	1087.9	1085.4	1080.4	1077.9	1072.9	1063.0	1053.0	1045.5
42.5°	978.2	978.2	975.7	973.2	968.2	970.7	965.7	960.7	950.7	943.2	938.2
45°	868.3	868.3	868.3	870.8	865.8	858.3	858.3	853.3	848.4	843.4	835.9
47.5°	771.0	778.5	773.5	771.0	773.5	763.5	763.5	758.5	753.5	748.5	738.6
50°	691.2	691.2	691.2	686.2	683.7	683.7	676.2	671.2	668.8	663.8	653.8
52.5°	618.8	613.8	613.8	611.3	608.8	603.8	603.8	598.8	588.9	583.9	576.4
55°	546.4	546.4	543.9	541.4	539.0	536.5	534.0	526.5	521.5	514.0	506.6
57.5°	481.6	486.6	484.1	479.1	474.1	474.1	469.1	464.1	456.6	449.1	441.6
60°	429.2	426.7	426.7	424.2	419.2	416.7	414.2	406.7	399.2	391.7	384.3
62.5°	374.3	374.3	374.3	369.3	364.3	361.8	359.3	354.4	344.4	336.9	331.9
65°	326.9	324.4	321.9	319.4	316.9	311.9	309.4	304.4	296.9	289.4	281.9
67.5°	279.4	276.9	276.9	274.5	267.0	264.5	264.5	257.0	249.5	242.0	234.5
70°	232.0	232.0	232.0	227.1	224.6	222.1	219.6	214.6	207.1	199.6	192.2
72.5°	192.2	189.7	189.7	187.2	179.7	177.2	174.7	169.7	162.2	157.2	152.2
75°	149.7	149.7	147.2	144.7	142.2	139.7	137.2	132.2	124.7	117.3	114.8
77.5°	114.8	112.3	112.3	109.8	104.8	102.3	102.3	97.3	89.8	84.8	79.8
80°	77.4	79.8	77.4	74.9	72.4	69.9	67.4	64.9	59.9	54.9	49.9
82.5°	47.4	49.9	47.4	47.4	44.9	42.4	42.4	37.5	35.0	32.5	30.0
85°	25.0	25.0	25.0	25.0	22.5	22.5	22.5	20.0	17.5	15.0	15.0
87.5°	7.5	10.0	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9
2.5°	1876.4	1873.9	1871.4	1871.4	1871.4	1871.4	1871.4	1868.9	1866.4	1866.4	1866.4
5°	1871.4	1871.4	1871.4	1868.9	1866.4	1866.4	1861.4	1858.9	1856.4	1853.9	1851.4
7.5°	1866.4	1861.4	1858.9	1856.4	1853.9	1853.9	1849.0	1844.0	1844.0	1839.0	1834.0
10°	1851.4	1849.0	1844.0	1839.0	1836.5	1834.0	1829.0	1821.5	1819.0	1814.0	1809.0
12.5°	1834.0	1829.0	1824.0	1814.0	1811.5	1809.0	1799.0	1791.5	1786.5	1784.0	1771.7
15°	1811.5	1801.5	1794.0	1781.5	1779.0	1774.1	1766.7	1759.2	1749.2	1741.7	1736.7
17.5°	1771.7	1761.7	1749.2	1736.7	1731.7	1731.7	1719.2	1709.2	1696.7	1691.8	1681.8
20°	1724.2	1711.7	1701.7	1686.8	1679.3	1671.8	1664.3	1649.3	1639.3	1631.8	1619.4
22.5°	1669.3	1651.8	1639.3	1624.4	1612.0	1604.5	1592.0	1579.5	1567.0	1559.5	1549.5
25°	1599.5	1584.5	1564.5	1549.5	1542.0	1532.1	1517.1	1504.6	1492.1	1479.6	1474.6
27.5°	1522.1	1502.1	1484.6	1467.2	1459.7	1452.3	1434.8	1419.8	1409.8	1397.3	1392.3
30°	1437.3	1417.3	1397.3	1382.3	1374.9	1362.4	1352.4	1334.9	1322.4	1312.5	1300.0
32.5°	1339.9	1324.9	1307.5	1285.1	1280.1	1270.1	1255.1	1247.6	1232.6	1225.1	1215.2
35°	1235.1	1225.1	1207.7	1190.2	1182.7	1177.7	1165.2	1150.3	1140.4	1132.9	1127.9
37.5°	1135.4	1122.9	1105.4	1092.9	1087.9	1080.4	1065.4	1058.0	1048.0	1043.0	1033.0
40°	1028.0	1015.5	1003.1	995.6	988.1	983.2	973.2	965.7	955.7	948.2	945.7
42.5°	923.2	915.7	905.7	895.8	893.3	885.8	880.8	873.3	865.8	863.3	855.8
45°	828.4	821.0	811.0	801.0	798.5	793.5	791.0	783.5	778.5	778.5	778.5
47.5°	733.6	726.1	716.1	711.1	713.6	703.6	703.6	701.1	696.2	696.2	698.6
50°	648.8	638.8	636.3	631.3	626.3	621.3	623.8	616.3	616.3	621.3	618.8
52.5°	568.9	558.9	556.4	551.4	548.9	548.9	546.4	546.4	543.9	546.4	546.4
55°	496.6	489.1	484.1	479.1	476.6	476.6	476.6	474.1	471.6	476.6	479.1
57.5°	431.7	429.2	424.2	416.7	414.2	411.7	409.2	409.2	409.2	409.2	411.7
60°	374.3	369.3	364.3	356.8	356.8	354.4	351.9	349.4	349.4	349.4	349.4
62.5°	324.4	316.9	309.4	304.4	301.9	299.4	296.9	291.9	291.9	291.9	291.9
65°	274.5	267.0	262.0	257.0	252.0	252.0	247.0	244.5	239.5	237.0	232.0
67.5°	227.1	222.1	217.1	209.6	207.1	204.6	199.6	197.1	189.7	187.2	184.7
70°	184.7	177.2	172.2	167.2	164.7	159.7	154.7	149.7	144.7	139.7	134.7
72.5°	144.7	137.2	132.2	127.2	122.2	122.2	114.8	109.8	102.3	97.3	89.8
75°	107.3	99.8	94.8	87.3	84.8	82.3	74.9	69.9	62.4	54.9	49.9
77.5°	72.4	67.4	62.4	54.9	49.9	49.9	42.4	37.5	32.5	25.0	22.5
80°	44.9	39.9	35.0	30.0	30.0	25.0	22.5	17.5	12.5	10.0	7.5
82.5°	25.0	22.5	20.0	15.0	15.0	12.5	10.0	7.5	5.0	2.5	2.5
85°	12.5	10.0	7.5	7.5	5.0	5.0	5.0	2.5	2.5	0.0	0.0
87.5°	5.0	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9
2.5°	1863.9	1863.9	1861.4	1861.4	1861.4	1858.9	1861.4	1858.9	1858.9	1858.9	1861.4
5°	1853.9	1849.0	1849.0	1846.5	1846.5	1844.0	1846.5	1844.0	1841.5	1839.0	1841.5
7.5°	1834.0	1829.0	1826.5	1824.0	1824.0	1824.0	1821.5	1819.0	1821.5	1814.0	1819.0
10°	1806.5	1804.0	1799.0	1796.5	1794.0	1796.5	1794.0	1789.0	1789.0	1789.0	1786.5
12.5°	1771.7	1766.7	1764.2	1761.7	1756.7	1756.7	1759.2	1754.2	1754.2	1749.2	1749.2
15°	1729.2	1724.2	1719.2	1719.2	1714.2	1714.2	1711.7	1711.7	1709.2	1706.7	1706.7
17.5°	1676.8	1669.3	1664.3	1666.8	1664.3	1661.8	1661.8	1656.8	1654.3	1656.8	1656.8
20°	1614.4	1609.5	1604.5	1607.0	1602.0	1599.5	1602.0	1594.5	1597.0	1597.0	1597.0
22.5°	1544.5	1542.0	1534.6	1534.6	1529.6	1527.1	1529.6	1529.6	1532.1	1529.6	1529.6
25°	1467.2	1462.2	1457.2	1457.2	1454.8	1452.3	1454.8	1457.2	1454.8	1457.2	1457.2
27.5°	1384.8	1377.4	1377.4	1372.4	1372.4	1374.9	1372.4	1374.9	1377.4	1377.4	1382.3
30°	1295.1	1292.6	1290.1	1287.6	1287.6	1290.1	1290.1	1290.1	1292.6	1297.6	1297.6
32.5°	1210.2	1205.2	1200.2	1200.2	1205.2	1202.7	1205.2	1205.2	1210.2	1210.2	1215.2
35°	1117.9	1117.9	1112.9	1115.4	1115.4	1115.4	1115.4	1120.4	1125.4	1127.9	1132.9
37.5°	1033.0	1025.5	1028.0	1028.0	1030.5	1028.0	1035.5	1035.5	1040.5	1040.5	1045.5
40°	940.7	940.7	943.2	940.7	943.2	943.2	948.2	953.2	955.7	960.7	963.2
42.5°	853.3	858.3	853.3	855.8	858.3	860.8	863.3	865.8	875.8	880.8	888.3
45°	773.5	776.0	778.5	781.0	778.5	783.5	786.0	791.0	798.5	801.0	803.5
47.5°	696.2	698.6	701.1	703.6	703.6	708.6	711.1	716.1	721.1	723.6	726.1
50°	621.3	626.3	628.8	628.8	631.3	636.3	641.3	641.3	646.3	653.8	656.3
52.5°	553.9	553.9	558.9	561.4	563.9	563.9	571.4	573.9	576.4	581.4	586.4
55°	479.1	486.6	489.1	489.1	494.1	499.1	501.6	504.1	504.1	514.0	514.0
57.5°	414.2	416.7	421.7	421.7	421.7	429.2	429.2	434.1	436.6	439.1	444.1
60°	349.4	354.4	354.4	356.8	354.4	359.3	361.8	366.8	369.3	371.8	374.3
62.5°	289.4	289.4	291.9	291.9	291.9	291.9	296.9	296.9	301.9	304.4	306.9
65°	232.0	232.0	232.0	232.0	232.0	232.0	232.0	232.0	234.5	234.5	239.5
67.5°	179.7	177.2	172.2	174.7	172.2	172.2	169.7	169.7	172.2	172.2	177.2
70°	129.7	127.2	122.2	122.2	119.7	117.3	114.8	112.3	109.8	109.8	109.8
72.5°	84.8	79.8	72.4	69.9	69.9	64.9	59.9	57.4	57.4	57.4	57.4
75°	42.4	37.5	32.5	30.0	30.0	25.0	27.5	25.0	25.0	25.0	25.0
77.5°	17.5	12.5	10.0	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5
80°	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P584582

CATALOG NUMBER: HC840D010-HM82555927-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9	1868.9
2.5°	1858.9	1858.9	1853.9	1856.4	1856.4	1856.4	1856.4	1856.4
5°	1836.5	1839.0	1836.5	1839.0	1839.0	1836.5	1836.5	1836.5
7.5°	1814.0	1816.5	1814.0	1816.5	1816.5	1816.5	1814.0	1814.0
10°	1786.5	1786.5	1786.5	1786.5	1786.5	1784.0	1786.5	1786.5
12.5°	1749.2	1749.2	1749.2	1751.7	1751.7	1749.2	1749.2	1746.7
15°	1709.2	1704.2	1706.7	1709.2	1706.7	1706.7	1706.7	1706.7
17.5°	1654.3	1656.8	1654.3	1654.3	1654.3	1654.3	1656.8	1654.3
20°	1597.0	1597.0	1599.5	1597.0	1597.0	1597.0	1597.0	1594.5
22.5°	1532.1	1529.6	1529.6	1532.1	1532.1	1529.6	1532.1	1532.1
25°	1459.7	1462.2	1459.7	1459.7	1462.2	1462.2	1462.2	1459.7
27.5°	1382.3	1384.8	1387.3	1384.8	1384.8	1384.8	1387.3	1389.8
30°	1302.5	1307.5	1302.5	1302.5	1307.5	1305.0	1307.5	1307.5
32.5°	1217.7	1225.1	1220.2	1225.1	1225.1	1227.6	1225.1	1227.6
35°	1132.9	1140.4	1140.4	1140.4	1142.8	1145.3	1145.3	1142.8
37.5°	1053.0	1055.5	1055.5	1060.5	1063.0	1065.4	1065.4	1063.0
40°	970.7	975.7	978.2	978.2	978.2	983.2	988.1	983.2
42.5°	890.8	893.3	895.8	895.8	900.8	903.3	905.7	905.7
45°	813.5	818.5	821.0	823.5	826.0	830.9	828.4	833.4
47.5°	733.6	741.1	743.6	746.1	751.0	753.5	756.0	758.5
50°	661.3	666.3	666.3	671.2	678.7	678.7	683.7	686.2
52.5°	588.9	591.3	593.8	596.3	601.3	606.3	606.3	611.3
55°	519.0	521.5	521.5	524.0	526.5	536.5	539.0	539.0
57.5°	446.6	446.6	451.6	454.1	456.6	461.6	461.6	461.6
60°	376.8	379.3	379.3	381.8	384.3	389.2	391.7	389.2
62.5°	306.9	309.4	309.4	311.9	316.9	319.4	316.9	316.9
65°	242.0	244.5	244.5	247.0	252.0	252.0	249.5	252.0
67.5°	177.2	177.2	177.2	177.2	177.2	177.2	177.2	177.2
70°	112.3	109.8	107.3	109.8	109.8	109.8	107.3	112.3
72.5°	54.9	57.4	57.4	57.4	57.4	57.4	57.4	54.9
75°	25.0	25.0	22.5	22.5	22.5	25.0	25.0	22.5
77.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)